PERSONAL INFORMATION

Reuben Farrugia

69, Amadea, Triq il- Pellegrinag tar- Roti, Zabbar, ZBR4427, Malta

(+356) 2340 3088   (+356) 79057134

reuben.farrugia@um.edu.mt

https://www.um.edu.mt/staff/reuben.farrugia

Sex Male | Date of birth 2/6/1981 | Nationality Maltese

BRIEF BIOGRAPHY

Dr. Reuben Farrugia is a senior lecturer at the University of Malta and has been working in the fields of image processing and pattern recognition for more than 14 years with specific focus on image/video compression, image restoration and biometrics. He has been active in research throughout his career and managed to publish more than 70 international peer-reviewed publications (listed herein) and has been involved in technical and organizational committees of several national and international conferences. In particular, he served as a General Chair on the IEEE International Workshop on Biometrics and Forensics (IWBF) in 2014 and as Technical Programme Co-Chair on the IEEE Visual Communications and Image Processing (VCIP) the same year. He has also been contributing as a reviewer of several journals and conferences including IEEE Transactions on Image Processing, IEEE Transactions on Circuits and Systems for Video Technology and IEEE Transactions on Multimedia. He is currently area editor of the Elseier Journal on Signal Processing: Image Communications. On September 2013 he was appointed as National Contact Point on the European Association of Biometrics (EAB) and has been elevated to Senior IEEE Member in 2017. He has also been involved in three COST Actions: Integrating Biometrics and Forensics for the Digital Age (IC1106), De-Identification for Privacy Protection in Multimedia Content (IC1206) and European Network on Quality of Experience in Multimedia Systems and Services (IC1003). Dr. Farrugia spent 1-year sabbatical at INRIA research centre in Rennes, France to work on improving the quality of facial images of CCTV quality images and light field image restoration and is still acting as an international collaborator with them on a European Research Council project. In May 2018 he was one of the co-founders of the Data Science Research Group at the University of Malta.

WORK EXPERIENCE

2018 - Present

Consultant

- Consultant in the field of image processing and artificial intelligence to both local and foreign companies.

2009 - Present

Senior Lecturer (since 2014)

Department of Communications and Computer Engineering, University of Malta, Malta

- Research conducted on the area of Image Processing, Pattern Recognition and Biometrics
- Regularly publish in top conferences and journals in the field of image processing, pattern recognition and biometrics
- Undergraduate and Postgraduate lecturing and course development in the area of Signal Processing and Computer Vision
- Project supervision at undergraduate, Masters and doctorate level
- PhD external examiner (University of Rennes, France)
- Preparation of local and international research project proposals
- Regular reviewer for several international conferences and journals in the areas of interest, including the IEEE Trans. on Image Processing, IEEE Trans. on Circuits and Systems and Video Technology and IEEE Trans. on Multimedia
- Area Editor of the Elsevier Journal on Signal Processing: Image Communication
- National contact point on the European Association on Biometrics

- Management Committee Member and Substitute Management Committee Member of three COST Actions: IC1106, IC1206 and IC1003
- Part of the technical committee of several conferences including the IEEE International Workshop on Biometrics and Forensics (general chair) and the IEEE Visual Communications and Image Processing conference (Technical Program co-chair) organized in Malta in 2014

Business or sector Higher Education, Research

2008 - 2009   **Assistant Lecturer**

Department of Communications and Computer Engineering, University of Malta, Malta

- Teaching undergraduate courses in the area of computer networks
- Regularly publish in top conferences and journals in the field of image processing, pattern recognition and biometrics
- Project supervision at undergraduate and Masters level
- Regular reviewer for several international conferences and journals in the areas of interest, including IEEE Trans. on Circuits and Systems and Video Technology and IEEE Trans. on Multimedia

Business or sector Higher Education, Research

2004 - 2007   **Research Engineer**

Department of Communications and Computer Engineering, University of Malta, Malta

- Worked on the TWISTER project (FP6 EU funded project for two years. The aim of the project was to model the quality of experience of video transmitted over a satellite communication system
- Worked on the eCAB project (FP6 EU funded project for one year). The project consisted in modelling the propagation impairments affecting a MTS-system on board of an Airbus A340-600 and F7X-buisiness jet aircraft
- Publish results in top conferences in the area of communications, modelling and simulation and aeronautics
- Assist in laboratory sessions: Computer Programming, Computer Logic and Organization, Introduction to Communications and Computer Systems, Advanced Digital System Design and Introduction to Signal Processing.

Business or sector Higher Education, Research

2004 - 2004   **Product Concurrent Engineer**

ST Microelectronics, Malta

- Development of test sequences, debugging and optimization of test sequences on industrial testers such as the ITS9000
- In order to succeed in managing these tasts, strong relations with design and R&D groups located in Grenoble (France) were established

Business or sector Microelectronics manufacturing

EDUCATION AND TRAINING

2004-2009   **Ph.D.**   EQF level 8

Thesis title: Resilient Wireless Transmission of H.264/AVC through Error Localization and Control Mechanisms, *in the field of image processing and pattern recognition*

University of Malta, Malta

2000-2004   **Bachelor in Engineering Honours Degree**   EQF level 8

Electrical theory, electronics, computer architecture,, communications, control engineering, digital signal processing, information theory

Thesis title: A Multimedia Database system for Presentations, *implementation of a system that captures a real time lecture and makes it available online*

University of Malta, Malta

AWARDED PROJECTS ■

| 2018-2020 | **4NSEEK - Forensic against child sexual exploitation**
Internal Security Fund Police (European Commission)
Co-applicant
€1.1M |

| 2018-2019 | **VideO Light field Acquisition and REstoration (VoLARe)**
FUSION Programme (Malta Council of Science and Technology)
Primary Investigator
€18,000 |

| 2018-2020 | **SATellite data Fusion and Imaging Resolution Enhancement for coastal areas (SAT-FIRE)**
Space Research Fund (Malta Council of Science and Technology)
Co-applicant
€150,000 |

| 2018-2021 | **Face Image Restoration using Deep-Learning (Deep-FIR)**
FUSION Programme (Malta Council of Science and Technology)
Primary Investigator
€201,727 |

PERSONAL SKILLS ■

Mother tongue(s)   Maltese, English

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Italian	C1	C1	B1	B1	B1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Professional Memberships
- Holder of state warrant as an Engineer
- Member of the Institute of Electronic and Electrical Engineers (IEEE), USA (2004)
- Elevated to IEEE Senior Member (2017)

Other Academic Contributions

Committee Members
- Technical Program Committee and meta-reviewer of IEEE VCIP 2017
- Area Editor of Elsevier Journal on Signal Processing: Image Communications (Sept. 2016-Present)
- Session Chair of the IEEE Int. Conference on Image Processing, Phoenix, Arizona, USA, Sept. 2016
- Technical Program Committee Member of IEEE Int. Conference on Computer as a Tool (EUROCON)
- Technical Program Committee Member of Springer Int. Conf. on Computer Analysis of Images and Patter (CAIP)

· Technical Program Co-Chair of IEEE Int. Conference on Visual Communications and Image Processing (VCIP 2014)
· General Chair of the IEEE International Workshop on Biometrics and Forensics (IWBF2014)
· Substitute Management Committee Member of COST Action IC1106 Integrating Biometrics and Forensics for the Digital Age
· Substitute Management Committee Member of COST Action IC1206 De-identification for Privacy Protection in Multimedia content
· Management Committee Member of COST Action IC1003 European Network on Quality of Experience in Multimedia Systems and Services (QUALINET)
· Technical Program Committee Member of the IEEE Int. Conference on Networks (ICON)
· Technical Program Committee Member of IEEE Int. Workshop on Quality of Multimedia Experience (QoMEX)
· Session Chair for the Int. Conf. on Advances in Multimedia, Budapest, Hungary, 2011
· Session Chair for the IEEE Int. Conf. on Information Theory and Information Security, Biejing, China, 2010
· Session Chair for the IEEE Int. Symposium on Multimedia, Taichung, Taiwan, 2010
· Session Chair for the IEEE Mediterranean Electrotechnical Conference, Malta, 2010
· Technical Program Committee Member of the IEEE Mediterranean Electrotechnical Conference, Malta, 2010

Reviewer of the following Journals and Conferences
· IEEE Trans. on Image Processing
· IEEE Trans. on Circuits and Systems for Video Technology
· IEEE Trans. on Multimeida
· IET Journal on Image Processing
· IET Journal on Signal Processing
· Elsevier Journal on Systems and Software
· Elsevier Journal on Signal Processing: Image Communications
· Elsevier Journal on Information Sciences
· ACM Trans. on Multimedia, Computing, Communications and Applications
· Springer Int. Conf. on Computer Analysis of Images and Patterns
· IEEE Int. Worksop on Quality of Multimedia Experience
· IEEE Int. Conference on Multimedia and Expo.
· IEEE Picture Coding Symposium
· IEEE Int. Conf on Image Processing, Theory, Tools and Applications
· IEEE Int. Conference on Computer as a tool
· IEEE Mediterranean Electrotechnical Conference
· IEEE Int. Symp. On Communications, Control and Signal Processing
· IEEE Int. Conf. on Broadband Communications and Biomedical Applications
· IEEE Wireless Communications and Networks
· IEEE Int. Conf. on Systems, Signals and Image Processing
· IEEE Int. Conf. on Networks

Publications   · Published several peer-reviewed papers in image processing, pattern recognition and biometrics (list of publications in annex)

ANNEXES

Annex 1

List of Publications (Dr. Ing. Reuben Farrugia (till 7th December 2017)

International Journals Papers

1. C. Galea, **R.A. Farrugia**, "Matching Software-Generated Sketches to Face Photos with a Very Deep CNN," in *IEEE Trans. on Information Forensics and Security*, vol. 13, no. 6, pp. 1421-1431, Jun. 2018.

2. **R.A. Farrugia**, C. Galea, C. Guillemot, "Super Resolution of Light Field Images using Linear Subspace Projection of Patch-Volumes," in *IEEE Journal on Selected Tolics in Signal Processing*, vol. 11, no. 7, pp. 1058-1071, Oct. 2017.

3. X. Jiang, M. Le Pendu, **R.A. Farrugia**, C. Guillemot, "Light Field Compression with Homography-based Low Rank Approximation," in *IEEE Journal on Selected Topics in Signal Processing*, vol. 11, no. 7, pp. 1132-1145, Oct. 2017.

4. C. Galea, **R.A. Farrugia**, "Forensic Face Photo-Sketch Recognition using a Deep Learning based Architecture," in *IEEE Signal Processing Letters*, vol. 24, no. 11, pp. 1586-1590, Nov. 2017.

5. **R.A. Farrugia**, C. Guillemot, "Face Hallucination using Linear Models of Coupled Sparse Support," in *IEEE Trans. on Image Processing*, vol. 26, no. 9, pp. 4562-4577, Sep. 2017.

6. C. Guillemot, **R.A. Farrugia**, "Light Field Image processing: overview and research issues," in *IEEE COMSOC MMTC Communications – Frontiers*, vol. 12, no. 4, Jul. 2017.

7. B.W. Micallef, C.J. Debono, **R.A. Farrugia**, "Reducing 3D Video Coding Complexity through more Efficient Disparity Estimation," *IEEE Trans. on Consumer Electronics*, vol. 60, no. 3, Feb. 2014.

8. J.J. Micallef, **R.A. Farrugia**, C.J. Debono, Correlation Noise based Unequal Error Protected Rate-Adaptive Codes for Distributed Video Coding," in *IEEE Trans. Circuits and Systems for Video Technol.*, vol. 24, no. 1, Jan. 2014

9. J.J. Micallef, **R.A. Farrugia**, B.W. Micallef, LDPCA Code Construction for Slepian-Wolf Coding," in *IEEE Commun. Letters*, vol. 15, no. 10, Oct. 2011.

10. **R.A. Farrugia**, C.J. Debono, "Robust Decoder-Based Error Control Strategy for Recovery of H.264/AVC Video Content," in *IET Communications*, vol. 5, no. 13, pp. 1928-1938, Sep. 2011

11. **R.A. Farrugia**, C.J. Debono, "A Hybrid Error Control and Artefact Detection Mechanism for Robust Decoding of H.264/AVC Video Sequences," in *IEEE Trans. on Circuit and Systems for Video Technol.*, vol. 20, no. 5, pp. 756-762, May 2010.

12. **R.A. Farrugia**, C.J. Debono, "A Support Vector Machine Approach for Detection and Localization of Transmission Errors within Standard H.263++ Decoders," *IEEE Transactions on Multimedia*, vol. 11, no. 7, pp. 1323-1330, Nov. 2009.

13. **R.A. Farrugia**, C.J. Debono, "Accurate Modelling of Ka-band Videoconferencing Systems Based on the Quality of Experience," IET Communications, vol. 3, issue 1, pp. 67 - 74, January 2009

14. **R.A. Farrugia**, C.J. Debono, "A Robust Error Detection Mechanism for H.264/AVC Coded Video Sequences Based on Support Vector Machines," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 18, no. 12, pp. 1766 - 1770, December 2008.

International Conference Papers

1. A. Gatt, M. Tanti, A. Muscat, P. Paggio, **R.A. Farrugia**, C. Borg, K.P. Camilleri, M. Rosner, L. van der Plas, "Face2Text: Collecting an Annotated Image Description Corpus for te Generation of Rich Text Descriptions," in *Int. Conf. on Laguage Resources and Evaluation*, 2018.

2. F. Alnoso Fernandez, **R.A. Farrugia**, J. Bigun, "Learning Based Local Patch Restoration Reconstruction of Iris Smart-Phone images," in *IARPA Int. Joint Conf. on Biometrics*, Denver, Colorado, USA, Oct. 2017.

3. E. Ribeiro, A. Uhl, F. Alonso Fernandez, **R.A. Farrugia**, "Exploiting Deep Learning Image Super-Resolution for Iris Recognition," in *European Signal Processing Conf EUSIPCO*, Kos Island, Greece, Oct. 2017

4. F. Alonso Fernandez, **R.A. Farrugia**, J. Bigun, "Iris Super-Resolution using Iterative Neighbor Embedding", in *IEEE Conf. on Computer Vision and Pattern Recognition Workshop - Biometrics (CVPR-W)*, Honolulu, Hawaii, Jul. 2017.

5. B. Birmingham, **R.A. Farrugia**, M. Vella, "Using Thumbnail Affinity for Fragmentation Point Detection of JPEG Files," in *IEEE Proc. EUROCON*, Jul. 2017, Ohrid, Macedonia, Jul. 2017.

6. X. Jiang, M. Le Pendu, **R A. Farrugia**, Sheila S. Hemami, Christine Guillemot,"Homography-bases Low-Rank Approximation of Light Fields for Compression," *IEEE Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP)*, Mar. 2017.

7. **R.A. Farrugia**, C. Guillemot, "Model and Dictionary guided Face Inpainting in the Wild," in *Asian Conference on Computer Vision (ACCV) Workshop - New Trends in Image Restoration and Enhancement*, Taipei, Taiwan, Nov. 2016.

8. C. Galea, **R.A. Farrugia**, "A Large-Scale Software Generated Face Composite Sketch Database," in *IEEE Int. Conf. of the Biometrics Special Interest Group (BIOSIG)*, Darmstadt, Germany, Sep. 2016.

9. C. Colombo, G. Pace, L. Camilleri, C. Dimech, **R.A. Farrugia**, J.P. Grech, A. Magro, A.C. Sammut, C. Zarb Adami, "Runtime Verification for Stream Processing Applications," in *Int. Symp. on Leveraging Applications of Formal Methods, Verification and Validation*, Corfu, Greece, Sep. 2016.

10. **R.A. Farrugia**, C. Guillemot, "Robust Face Hallucination using Quantization-Adaptive Dictionaries," *IEEE Int. Conf. on Image Processing (ICIP)*, Arizona, USA, Sep. 2016.

11. F. Alonso Fernandez, **R.A. Farrugia**, J.Bigun, "Very Low-Resolution Iris Recognition via Eigen-Patch Super-Resolution and Matcher Fusion, *IEEE Int. Conf. on Biometrics: Theory, Applications and Systems*, Sep. 2016.

12. C. Galea, **R.A. Farrugia**, "Face Photo-Sketch Recognition with log-Gabor Filters and Statistical Correlation Coefficients," in *European Signal Processing Conf EUSIPCO*, Budapest, Hungary, Sep. 2016

13. F. Alonso Fernandez, **R.A. Farrugia**, J.Bigun, "Reconstruction of Smartphone Images for Low Resolution Iris Recognition," IEEE Int. Workshop on Information Forensics and Security,Rome, Italy, Nov. 2015

14. C. Galea, **R.A. Farrugia**, "A No-Reference Video Quality Metric using a Natural Video Statistical Model" in *IEEE Proc. EUROCON,* Sept. 2015,

15. C. Galea, **R.A. Farrugia**, "Fusion of intra- and inter- modality algorithms for face-sketch recognition," *Int. Conf. Computer Analysis of Images and Patterns (CAIP 2015) Lecture Notes in Computer Science*, Valletta, Malta, Sept. 2015

16. F. Alonso Fernandez, **R.A. Farrugia**, J.Bigun, "Eigen-Patches Iris Super-Resolution for Iris Recognition Improvement," EUSIPCO 2015, Sept. 2015, Nice, France

17. **R.A. Farrugia**, M. Hili, "Depth Coding using Depth Discontinuity Prediction and in-loop Boundary Reconstruction Filtering," in *IEEE Int. Conf. Visual Commun. and Image Proc.,* Dec. 2014, Valletta, Malta.

18. **R.A. Farrugia**, "Reversible De-Identification for Lossless Image Compression using Reversible Watermarking," *International Convention on Information and Communications Technology, Electronics and Microelectronics*, May 2014, Opatia, Croatia

19. J.J. Micallef, **R.A. Farrugia**, C.J. Debono, "Modified Distribution of Correlation Noise for Improved Wyner-Ziv Video Coding Performance," in *IEEE Int. Workshop on Multimedia Signal Processing*, Sep. 2013, Pula, Italy.

20. J.J. Micallef, **R.A. Farrugia**, C.J. Debono, "Adaptive Rounding Operator for Efficient Wyner-Ziv Video Coding," in *IEEE Visual Communications and Image Processing*, Nov. 2013, Kuching, Malaysia.

21. J.J. Micallef, **R.A. Farrugia**, C.J. Debono, "Improving Decoding Speed for Parallel Distributed Video Coding Architectures," in *European Signal Processing Conference*, Sep. 2013, Marrakech, Morocco

22. **R.A. Farrugia**, I. Gambin, "Exploiting Color-Depth Image Correlation to improve Depth Map Compression," in *IEEE Proc. EUROCON*, Jul. 2013, Zagreb, Croatia.

23. J.J. Micallef, **R.A. Farrugia**, C.J. Debono, "Selective Reconstruction of Low Motion Regions in Distributed Video Coding,"in *IEEE Proc. EUROCON*, Jul. 2013, Zagreb, Croatia.

24. **R.A. Farrugia**, C. Galea, S. Zammit, A. Muscat, "Objective video quality metrics for HDTV services: A survey," in *IEEE Proc. EUROCON*, Jul. 2013, Zagreb, Croatia.

25. B.W. Micallef, C.J. Debono, **R.A. Farrugia**, "Low complexity disparity estimation for Immersive 3D Video Transmission," in *IEEE Proc. Int. Conf. in Communications*, Jun. 2013, Budapest, Hungary.

26. **R.A. Farrugia**, "Resilient Video Coding using Difference Expansion and Histogram Modification," *IEEE Int. Conf. on Networks*, Dec. 2012, Singapore

27. **R.A. Farrugia**, "Efficient Depth Image Compression Using Accurate Depth Discontinuity Detection and Prediction," *IEEE Int. Conf. Signal Image Technology and Internet based Systems*, Dec. 2012, Sorrento, Italy.

28. C. De Raffaele, K.P. Camilleri, **R.A. Farrugia** and C.J. Debono, "Performance Improvement of Segmentation Based Depth Representation in 3D Imagery by Region Merging," *IEEE Int. Conf.* on Advanced Technologies for Communications, Oct. 2012, Vietnam.

29. J.J. Micallef, **R.A. Farrugia** and C.J. Debono, "Reducing Correlation Noise in Wyner-Ziv Video Coding," in *European Signal Processing Conference*, Bucharest, Romania, Aug. 2012.

30. B.W. Micallef, C.J. Debono, **R.A. Farrugia**, "Improved Depth Maps Coding Efficiency of 3D Video," n *European Signal Processing Conference*, Bucharest, Romania, Aug. 2012.

31. C. De Raffaele, K. Camilleri, C.J. Debono, **R.A. Farrugia**, "Efficient multiview Depth Representation Based on Image Segmentation," in *IEEE Proc. of Int. Picture Coding Symposium (PCS)*, Krakow, Poland, May 2012.

32. B.W. Micallef, C.J. Debono, **R.A. Farrugia**, "Fast Inter-Mode Decision in Multi-View Video Plus Depth Coding," in *IEEE Proc. of Int. Picture Coding Symposium (PCS)*, Krakow, Poland, May 2012.

33. B.W. Micallef, C.J. Debono, **R.A. Farrugia**, "Fast Multi-View Video plus Depth Coding with Hierarchical Bi-Prediction," in *IEEE Int. Symp. on Communications, Control and Signal Processing*, Rome, Italy, May 2012

34. M. Sacco, **R.A. Farrugia**, "Driver Fatigue Monitoring System using Support Vector Machines," in *IEEE Int. Symp. on Communications, Control and Signal Processing*, Rome, Italy, May 2012

35. **R.A. Farrugia**, "Improving Motion Vector Prediction using Linear Regression," in *IEEE Int. Symp. on Communications, Control and Signal Processing*, Rome, Italy, May 2012.

36. J.J. Micallef, **R.A. Farrugia** and C.J. Debono, "Improved Rate-Adaptive Codes for Distributed Video Coding,"in *IEEE Proc. of Int. Conf. on Visual Communications and Image Processing*, Tainan, Taiwan, Nov. 2011.

37. B. W. Micallef, C.J. Debono and **R.A. Farrugia**, "Fast Disparity Estimation for Multi-view Plus Depth Video Coding," in *IEEE Proc. of Int. Conf. on Visual Communications and Image Processing*, Tainan, Taiwan, Nov. 2011.

38. J.J. Micallef, **R.A. Farrugia** and C.J. Debono, "Improved Wyner-Ziv Video Coding Efficiency using Bit Plane Prediction," in *IEEE Int. Conf. on Image Processing*, Brussels, Belgium, Sep. 2011.

39. B. W. Micallef, C.J. Debono and **R.A. Farrugia**, "Exploiting Depth Information for Efficient Multi-view Video Coding," in *IEEE Proc. of Int. Conf. Multimedia and Expo*, Barcellona, Spain, Jul. 2011. - **Top 15% paper**

40. B. W. Micallef, C.J. Debono and **R.A. Farrugia**, "Performance of Enhanced Error Concealment Techniques in Multi-view Video Coding Systems," in *IEEE Int. Conf. on Systems, Signals and Image Processing*, Sarajevo, Bosnia and Herzegovina, Jun. 2011.

41. B. W. Micallef, C.J. Debono and **R.A. Farrugia**, "Exploiting Depth Information for Fast Motion and Disparity Estimation in Multi-view Video Coding ," in *IEEE Proc. of 3DTV-Con*, Antalya, Turkey, May 2011.

42. **R. Farrugia**, "Reversible Visible Watermarking for H.264/AVC Encoded Video," in *IEEE Proc. of Int. Conf. EUROCON,* Lisbon, Portugal, Apr. 2011.

43. L. Attard and **R. Farrugia**, "Vision bassed Surveillance System," in *IEEE Proc. of Int. Conf. EUROCON,* Lisbon, Portugal, Apr. 2011.

44. **R. Farrugia** and L. Cutajar, "Scalable Video Coding Transmission over Heterogeneous Networks," in *Third International Conference on Advances in Multimedia (MMEDIA2011),* Budapest, Hungary, Apr. 2011.

45. J.J. Micallef, **R.A. Farrugia** and C.J. Debono, "Low-Density Parity-Check Codes for Asymmetric Distributed Source Coding,"in *IEEE Proc. of Int. Conf. on Information Theory and Information Security*, Beijing, China, Dec. 2010.

46. R. Facciol and **R.A. Farrugia**, "Robust Video Transmission using Reversible Watermarking Techniques," in *IEEE Proc. of Int. Symp. on Multimedia*, Taichung, Taiwan, Dec. 2010.

47. B. W. Micallef, C.J. Debono and **R.A. Farrugia**, "Exploiting Depth Information for Fast Multi-view Video Coding," in *IEEE Proc. of Int. Picture Coding Symposium (PCS)*, Nagoya, Japan, Dec. 2010.

48. B. W. Micallef, C.J. Debono and **R.A. Farrugia**, "Error Concealment Techniques for H.264/MVC Encoded Sequences," in *Proc. of Int. Conf. of Electrotechnical and Computer Science (ERK)*, Portoroz, Slovenia, Sep. 2010 - **Invited Paper**

49. **R.A. Farrugia**, "A Reversible Visible Watermarking Scheme for Compressed Images," in *IEEE Proc. of Int. Conf. MELECON*, Valletta, Malta, Apr. 2010.

50. C. Saliba and **R.A. Farrugia**, "Quality of Service Aware Ant Colony Optimization Routing Algorithm," in *IEEE Proc. of Int. Conf. MELECON*, Valletta, Malta, Apr. 2010.

51. **R.A. Farrugia** and C.J. Debono, "Decoding H.264/AVC using Prior Information and Source Constraints," in *IEEE Proc. of Int. Picture Coding Symposium (PCS)*, Chicago, USA, May 2009.

52. K. Chetcuti, C.J. Debono, **R.A. Farrugia** and S. Bruillot, "Wireless Propagation Modelling Inside a Buisiness Jet,"in *IEEE Proc. of Int. Conf. EUROCON*, St. Petersbourgh, Russia, May 2009.

53. **R.A. Farrugia** and C.J. Debono, "Improved Quality of Experience of Reconstructed H.264/AVC Encoded Video Sequences through Robust Pixel Domain Error Detection," in *IEEE Int. Workshop on Multimedia Signal Processing*, Cairns, Australia, Oct. 2008.

54. **R.A. Farrugia** and C.J. Debono, "Robust Transmission of H.264/AVC sequences using List Decoding and Source Constraints," in *IEEE Proc. of Int. Conf. MELECON*, Ajacio, France, May 2008.

55. **R.A. Farrugia**, and C.J. Debono, "Resilient Transmission of H.264/AVC Video Sequences using Probabilistic Neural Networks," in *IEEE Int. Symp. on Communications, Control, and Signal Processing*, Malta, Mar. 2008.

56. C. J. Debono, and **R.A. Farrugia**, "Optimization of the UMTS Network Radio Coverage On-board an Aircraft," in *IEEE Proc. AEROSPACE Conf.*, Big Sky, Montana, USA, Mar. 2008.

57. **R.A. Farrugia**, and C.J. Debono, "Enhancing Error Resilience in Wireless Transmitted Compressed Video Sequences through a Probabilistic Neural Network Core," in *IEEE Proc. of Int. Picture Coding Symposium (PCS)*, Lisbon, Portugal, Nov. 2007.

58. **R.A. Farrugia**, and C.J. Debono, "Enhancing the Error Detection Capabilities of the Standard Video Decoder using Pixel Domain Dissimilarity Metrics," in *IEEE Proc. of Int. Conf. EUROCON,* Warsaw, Poland, Sept. 2007.

59. **R.A. Farrugia**, and C.J. Debono, "Enhancing the Error Detection Capabilities of DCT based Codecs using Compressed Domain Dissimilarity Metrics," in *IEEE Proc. of Int. Conf. EUROCON*, Warsaw, Poland, Sept. 2007.

60. **R.A. Farrugia**, and C.J. Debono, "A Statistical Bit Error Generator for Emulation of Complex Forward Error Correction Schemes," in *IEEE Proc. of Int. Conf. on Communications (ICC)*, Glasgow, Scotland, Jun. 2007.

61. **R.A. Farrugia**, C.J. Debono, and P. Micallef, "Modeling the End-to-End Quality of a Practical Videoconferencing System," in *Proc. of Int. Conf. of OPNETWORK*, Washington, D.C., USA, Aug. 2006.

62. **R.A. Farrugia**, C.J. Debono, and P. Micallef, "Channel Modeling and Simulation of a Ka-Band Videoconferencing System," in *IEEE Proc. of Int. Conf. MELECON*, Malaga, Spain, May. 2006.

63. **R.A. Farrugia**, C.J. Debono and P. Micallef, "Propagation Impairments Modeling and QoS Parameter Characterization in a Ka-Band Videoconferencing System," in *IEEE Proc. of Int. Conf. EUROCON*, Belgrade, Serbia, Nov. 2005.

Edited Books and Book Chapters

64. **R.A. Farrugia**, C.J. Debono, *Multimedia Networking and Coding*, IGI Global Dissemination of Knowledge, Dec. 2012.

65. **R.A. Farrugia**, C.J. Debono,*Resilient Digital Video Transmission over Wireless Channels using Pixel-Level Artefact Detection Mechanisms*, Digital Video, Floriano De Rango (Editor), ISBN 978 953 7619 70 1, Intech, pp. 71-96, February 2010

66. C.J. Debono, **R.A. Farrugia**, K. Chetcuti, *Modelling of the Wireless Propagation Characterisitics inside Aircraft*, Aerospace Technologoes Advancements, Thawar T. Arif (Editor), ISBN: 978-953-7619-96-1, Intech, pp. 361 - 378, January 2010

Technical Reports

67. C. Galea, **R.A. Farrugia**, A. Muscat, S. Zammit, "Objective Quality of Experience Metrics for Television Services," Technical Report MCA-2012-04, Malta Communications Authority, Valletta, Malta, Oct. 2012

Local Conferences

68. N. De Gabriele, **R.A. Farrugia**, "Implementation of Facial Recognition on Smartphones," in *Proc. Workshop on Information and Communications Technology*, Kalkara, Malta, Apr. 2013
69. L. Schembri, **R.A. Farrugia**, "Autonomous Action Detection using Support Vector Machines and Hidden Markov Models," in *Proc. Workshop on Information and Communications Technology*, Kalkara, Malta, Apr. 2013
70. A. Borg, P.J. Micallef, **R.A. Farrugia**, "Speaker Identification," in *Proc. Workshop on Information and Communications Technology*, Kalkara, Malta, Apr. 2013.
71. **R.A. Farrugia**, M. Hili and L. Schembri, "Real-Time Vision based Human Tracking using Support Vector Machines," in *Proc. Workshop on Information and Communications Technology*, Sliema, Malta, Mar. 2012.
72. L. Busuttil, **R. Farrugia**, "Implementation of an Interactive IPTV System," in *Proc. Workshop on Information and Communications Technology*, Valletta, Malta, Nov. 2010. (**Link**)